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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAUL D. MARKO
and CRAIG P. WADIN

Appeal 2009-001220
Application 09/695,228
Technology Center 2400

Decided: May 12, 2010

Before JOHN A. JEFFERY, KENNETH W. HAIRSTON,
and THOMAS S. HAHN, *Administrative Patent Judges*.

HAHN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants invoke our review under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1, 2, and 4-21. We have jurisdiction under 35 U.S.C. § 6(b). We affirm-in-part.

STATEMENT OF THE CASE

Appellants claim a receiver apparatus and method for processing and storing a data file that is interspersed in a digital broadcast signal as partitioned segments. A header is provided to identify the data file segments and to specify the memory size required for storing the segments. A receiver processor is programmed to use header-provided information to identify what memory capacity is needed for storing the data file segments, and to monitor storage of received segments.¹ Claim 1 is illustrative:

1. A receiver in a digital broadcast system comprising:

a memory device for storing content from a transmitted broadcast signal using said digital broadcast system, the content comprising data files, said data files each being partitioned into segments that are interspersed in said transmitted broadcast signal, said transmitted broadcast signal being provided with at least one header comprising information indicating the number of said segments that constitute at least one of said data files and information to identify each of said segments;

a reception device for receiving said transmitted broadcast signal and processing said broadcast signal to obtain at least part of said content including said segments corresponding to at least one of said data files therein; and

a processing device connected to said memory device and said reception device and being programmable to use said at least one header in said transmitted broadcast signal to determine the size of at least one section in said memory device to allocate for storing the data file, to store said segments corresponding to the data file in said

¹ See generally Spec. 5:21-30; 6:7-16; 7:5, 6; 7:18-8:8; 9:6-10:26; 11:9-26; Figs. 1-5, 7.

allocated section, and to monitor the progress of the storage of said segments in said allocated section, said at least one header comprising data to indicate how much of said memory device needs to be allocated to store the data file.

The Examiner relies on the following prior art references to show unpatentability:²

Rieger	US 5,732,324	Mar. 24, 1998
Hiroshima	US 5,801,781	Sep. 1, 1998
Morrison	US 5,815,671	Sep. 29, 1998
Wolzien	US 2003/0212996 A1	Nov. 13, 2003
Foster	US 6,801,536 B1	Oct. 5, 2004

1. The Examiner rejected claims 1, 4, 5, 9, 12, 17, and 18 under 35 U.S.C. § 103(a) as being unpatentable over Foster and Hiroshima (Ans. 3-6).³

2. The Examiner rejected claims 2, 10, and 19 under 35 U.S.C. § 103(a) as being unpatentable over Foster, Hiroshima, and Rieger (Ans. 6-8).

3. The Examiner rejected claims 6, 7, 20, and 21 under 35 U.S.C. § 103(a) as being unpatentable over Foster, Hiroshima, and Morrison (Ans. 8-10).

² Effective filing dates for these documents precede Appellants' earliest effective filing date and are not at issue.

³ Although the Examiner did not include claim 12 in the statement of rejection (Ans. 3), we presume this is a typographical error and that the Examiner intended to include claim 12 based on the discussion of claim 12 in the statement of reasons for this rejection (Ans. 5).

4. The Examiner rejected claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Foster, Hiroshima, Morrison, and Wolzien (Ans. 10).

5. The Examiner rejected claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Foster, Hiroshima, Rieger, and Morrison (Ans. 10, 11).

6. The Examiner rejected claims 13-15 under 35 U.S.C. § 103(a) as being unpatentable over Foster and Morrison (Ans. 11, 12).

7. The Examiner rejected claim 16 under 35 U.S.C. § 103(a) as being unpatentable over Foster, Morrison, and Wolzien (Ans. 13).

Rather than repeat the Appellants' or the Examiner's arguments, we refer to the Appeal Brief filed Aug. 9, 2007, the Examiner's Answer mailed Nov. 16, 2007, and the Reply Brief filed Jan. 16, 2008 for their respective details. In this decision, we have considered only those arguments actually made by Appellants. Arguments that Appellants could have made but did not make have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants' Contentions

Appellants group claims 1, 4, 5, 9, 12, 17, and 18, and separately argue independent claim 1 as not being obvious over Foster and Hiroshima (App. Br. 7-14; Reply Br. 4-9). We, accordingly, select claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(vii). Appellants contend the

references, either alone or in combination, fail to teach providing a header with a transmitted broadcast signal so a processing device can (i) determine the required size for a memory device to store data file segments; and (ii) monitor storage of data file segments as recited in claim 1.

Appellants separately argue claim 2 as not being obvious over Foster, Hiroshima, and Rieger (App. Br. 14, 15). Appellants contend Rieger fails to teach or suggest generating an alert message when data file segments have been stored as recited in claim 2.

Appellants separately argue claims 10 and 19 as not being obvious over Foster, Hiroshima, and Rieger (App. Br. 15). Appellants contend Rieger fails to teach or suggest determining whether rebroadcast data file segments previously had been received and stored as recited in claims 10 and 19.

Appellants group claims 13-15, and separately argue independent claim 13 as not being obvious over Foster and Morrison (App. Br. 17; Reply Br. 9, 10). We, accordingly, select claim 13 as representative. *See* 37 C.F.R. § 41.37(c)(1)(vii). Appellants contend Foster fails to teach providing a header with a transmitted broadcast signal that includes (i) a first field indicating the total number of data file segments; and (ii) a second field indicating segment identification codes as recited in claim 13.

ISSUES

Under § 103(a), have Appellants shown the Examiner erred in rejecting:

(a) representative claim 1 by finding Foster and Hiroshima, either alone or in combination, teaches or suggests a header being provided with a transmitted broadcast signal so a processing device can (i) determine the required size for a memory device to store data file segments; and (ii) monitor storage of data file segments;

(b) claim 2 by finding Rieger teaches or suggests generating an alert message when data file segments have been stored;

(c) claims 10 and 19 by finding Rieger teaches or suggests determining whether rebroadcast data file segments previously had been received and stored; and

(d) representative claim 13 by finding Foster fails to teach providing a header with a transmitted broadcast signal that includes (i) a first field indicating the total number of data file segments; and (ii) a second field indicating segment identification codes?

FINDINGS OF FACT

The record supports the following Findings of Fact (FF) by a preponderance of the evidence:

Foster

1. Foster describes a receiver (190) with a set-top box (STB) (100) (col. 3, ll. 48-51; Fig. 1) that has memory devices (130, 140) for storing transmitted video/audio content (col. 4, ll. 2-11).
2. Foster discloses a STB compliant video/audio data buffering method (col. 3, ll. 26-29; Fig. 2) that receives a transport stream

210, i.e., a broadcast signal, for communicating data packets with a header indicating the type of transported data (col. 5, ll. 43-46; Figs. 2, 3).

3. Foster further discloses that transported packets are stored by buffers 222A and 222V (col. 5, ll. 56-67).
4. A “bytes-to-interrupt” (BTI) value is disclosed by Foster as being applied at the STB to packetized elementary stream (PES) headers for establishing when buffer stages have been filled so as to assure data does not overflow or underflow buffer stages (col. 6, ll. 1-18).
5. Foster also discloses that headers are built and queued with data sub-blocks, and that system time clock (STC) values are included in the headers for comparison with current STC values to correlate sub-block storage locations (col. 3, ll. 10-15).

Hiroshima

6. Hiroshima discloses an apparatus for converting transport stream communicated video/ audio data from a MPEG1 (Motion Picture Experts Group) format to MPEG2 (Abstract; col. 1, ll. 7-16) by using a “buffer memory” to store transmitted MPEG1 data (col. 7, ll. 44-47).
7. Hiroshima shows an explanatory block diagram for a stream of MPEG1 data as a conversion source (col. 4, 31, 32; Fig. 6), and discloses that included data pack 86-1 has both a packet header 88 and system header 90 (col. 8, ll. 14-18), with the system header 90 including buffer size 122 in addition to other packet information (col. 8, ll. 32-39).

Rieger

8. Rieger describes a digital audio communication system with a receiver capable of receiving and saving transmitted programs to storage media (col. 1, ll. 7-21).
9. Rieger discloses that after a transmitted program is received and stored, “a brief audio alarm to attract attention” can be emitted (col. 5, ll. 43-51).
10. Rieger further discloses including an encoded preamble with transmitted program data that describes program content and date of creation so that a receiving unit can use the preamble information “to filter out programs recognized as already having been captured” (col. 4, ll. 29-42).

PRINCIPLES OF LAW

Analysis of claim rejections begins with a determination of claim scope. We determine claim scope not solely on the basis of claim language, but also on giving claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). *See also Superguide Corp. v. DirecTV Enter., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim”).

ANALYSIS

Claims 1, 4, 5, 9, 12, 17, and 18

Based on the record, we are persuaded the Examiner did not err under § 103(a) in rejecting these claims as being unpatentable over Foster and Hiroshima.

Receiver apparatus claim 1 recites the following disputed limitations: “a processing device . . . being programmable to use . . . [a] header . . . to determine the size of at least one section in said memory device to allocate for storing the data file . . . and to monitor the progress of the storage of said segments in said allocated section” Appellants argue that “the headers of the transport stream packets of Foster et al are not used to determine the size of at least one section in a memory device to allocate for storing a data file, . . . nor to monitor the progress of the storage of segments in the allocated section” (Reply Br. 5).

The Examiner acknowledges “Foster does not clearly disclose the use of the header comprising data to indicate how much of the memory device need[s] to be allocated to store the data file” (Ans. 4). Turning to Hiroshima, though, the Examiner finds a data pack system header 90 taught that includes “buffer size” and other data packet information (Ans. 16, 17; *accord* FF 7). Appellants do not contest that Hiroshima teaches data pack headers with included “buffer size” information, but, instead, Appellants argue that “Hiroshima et al is silent regarding what the buffer size 122 corresponds to” (Reply Br. 6).

Citing to the references, the Examiner finds and reasons:

Hiroshima discloses the use of the packet header data to indicate how much of the memory device need[s] to be allocated to store the data file (see Fig. 6, el. 122; Col. 8, lines 32-45) for the purpose of preventing data loss by allocating corresponding memory size as needed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Foster with Hiroshima for having a buffer size with a packet header so to guarantee neither overflow nor underflow of the buffers.

(Ans. 4). In accord with the Examiner's findings and reasoning, we further find Hiroshima teaches using a "buffer memory" to store transmitted MPEG1 data (FF 6). On this record, which is silent as to an ordinarily skilled artisan lacking understanding or implementing skill in this regard, we are persuaded by the Examiner's and our findings that Hiroshima teaches the claimed subject matter. For example, we note that "if a technique has been used to improve one device [e.g., sizing Hiroshima's buffer memory], and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417 (2007).

With respect to the recited monitoring of segment storage, the Examiner finds Foster teaches that "[...]blocks of audio and video data are . . . queued to the buffers forming storage queues until the total data size established by the BTI value . . . is reached" (col. 8 lines 19-21). This process effectively determines when data files have been received" (Ans. 18).

Consistent with these Examiner findings, we find Foster teaches a “bytes-to-interrupt” (BTI) parameter applied at the STB to packetized elementary stream (PES) headers for determining that buffer stages are neither overfilled nor under filled with received data (FF 4).

Appellants do not contest that Foster teaches a BTI parameter for determining when buffer stages are filled with received data, but, instead, Appellants argue “the BTI value is not in a header of a transmitted broadcast signal and therefore [Foster] does not teach elements of the inventions . . .” (Reply Br. 8; *see* App. Br. 10). More specifically, Appellants assert “the Examiner is relying on a BTI value that is generated at the STB and therefore is not part of the header in a transmitted broadcast signal” (Reply Br. 8). We are not persuaded by this argument because representative claim 1 recites a “transmitted broadcast signal being provided with at least one header.” Construing claim 1 based on the record, we find no reason to exempt the recitation for a “transmitted broadcast signal . . . provided” header, which is not limited as to where and when header provision occurs, from a reasonably broad construction that reads on Foster’s application of BTI values at a STB to headers (FF 4). *See Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d at 1364

Appellants further argue that “the BTI value does not identify each block therein as the Examiner seems to suggest” (Reply Br. 8). Appellants apparently are relying on the representative claim 1 recitation for a receiver apparatus having a “memory device for storing content from a transmitted broadcast signal . . . provided with at least one header comprising . . .

information to identify each of said segments . . .” (emphasis added). In our view, however, storing segment identifications from a header, without more, does not functionally or structurally limit the claimed subject matter. Therefore, the stored segment identifications constitute non-functional descriptive material. Such non-functional descriptive material does not patentably distinguish over prior art that otherwise renders claims unpatentable. *See In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004); *see also Ex Parte Nehls*, 88 USPQ2d 1883, 1887-89 (BPAI 2008) (precedential) (discussing cases pertaining to non-functional descriptive material).

For the foregoing reasons, we find the Examiner did not err in rejecting representative claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Foster and Hiroshima. Accordingly, the Examiner’s rejection of independent claim 1, as well as the not-separately-argued rejection of claims 4, 5, 9, 12, 17, and 18 will be sustained.

Claim 2

Based on the record before us, we are persuaded the Examiner did not err under § 103(a) in rejecting dependent claim 2 as being unpatentable over Foster, Hiroshima, and Rieger.

Appellants’ arguments are directed to Rieger, which Appellants assert “teaches sending audio programs from low power transmitters to proximate digital burst radio (PDBR) receiving units in motor vehicles” (App. Br. 14; *accord* FF 8). Specifically, Appellants argue Rieger “does not disclose alerting as claimed” (App. Br. 14).

The Examiner rejoins that “Rieger clearly shows that an audio alarm is triggered when data has been correctly received (col. 5 lines 40-50, after

capturing transmission, receiver emits audio alarm to attract attention to newly saved data)” (Ans. 20).

We do not find the record supports construing outside a plain meaning the recited “to generate an alert message.” Therefore, based on the record, we concur with the Examiner’s findings from Rieger (*see* FF 8, 9). In particular, we agree with the Examiner and not Appellants, because we find Rieger discloses emitting “a brief audio alarm to attract attention” when a transmitted audio program is received and stored (FF 9). Consequently, we find the claim 2 recited “generat[ing] an alert message . . . when each of said segments corresponding to the data file has been stored” is taught by Rieger.

We, accordingly, find the Examiner did not err in rejecting claim 2 under 35 U.S.C. § 103(a), and will sustain the rejection.

Claims 10 and 19

Based on the record, we are persuaded the Examiner erred under § 103(a) in rejecting dependent claims 10 and 19 as being unpatentable over Foster, Hiroshima, and Rieger.

In relevant part, claims 10 and 19 recite having a data file rebroadcast, with: (i) claim 10 further reciting that the processing device operates to store rebroadcast segments “if said segments are not yet stored . . . , and to discard said segments that . . . were previously stored;” and (ii) claim 19 further recites “storing the rebroadcast said segments that are determined to have not been previously stored.”

Again, Appellants’ arguments are directed to Rieger. For both claims 10 and 19, Appellants identically argue Rieger “discloses filtering programs that are already captured at a receiver, but not determining whether parts of

programs have been received or not” (App. Br. 15). We do not find that the Examiner separately addressed this argument.

In the statement of reasons for the rejection of claims 10 and 19, the Examiner indicates that Foster and Hiroshima fail to teach or suggest (i) rebroadcast of segments, (ii) determining what data has been stored, (iii) discarding rebroadcast data that was previously stored, and (iv) saving rebroadcast data not previously stored (Ans. 7). Turning to Rieger, the Examiner finds such subject matter taught. (*id.*).

We find Rieger teaches audio programs being rebroadcast and received multiple times, and that a receiver can use preamble-provided information “to filter out programs recognized as already having been captured” (FF 10). We, however, do not find Rieger teaches or suggests an apparatus or method to identify whether program segments were or were not previously stored.

For the foregoing reasons, Appellants have persuaded us of error with respect to the rejection under § 103(a) of dependent claims 10 and 19, and we, accordingly, will not sustain the Examiner’s rejection.

Claims 13-15

Based on the record, we are persuaded the Examiner did not err under § 103(a) in rejecting representative claim 13 as being unpatentable over Foster and Morrison.

In relevant part, independent claim 13 recites a method that provides a “broadcast signal with segment headers . . . that each comprise . . . a first field indicating the total number of said segments in the corresponding one

of said data files, and a second field indicating said identification code of the segment.” The Examiner finds Foster teaches this recited subject matter (Ans. 11, 12).

In particular, the Examiner finds Foster “providing each segment with a header that identifies the total number of segments” (Ans. 11). Appellants acknowledge that Foster teaches a “sub block header 412 indicating total data block size” (Reply Br. 10), and then argue “sub block header 412 . . . is not in the transmitted stream but rather is created at the STB and can be of coarser granularity as explained in Foster et al at column 5, lines 5-6, column 6, line 66 through column 7, line 8 and column 7, lines 24-27” (*id.*).

We are not persuaded by Appellants’ arguments because claim 13 recites “providing said broadcast signal with segment headers.” We do not find any recited limitation as to when or where the “segment headers” are provided to the broadcast signal. Thus, introducing information as to the total number of segments into a header at a STB in our view does not avoid being read on by claim 13. Additionally, claim 13 does not recite any limitation addressing header “granularity,” and, therefore, we are not persuaded by that argument.

For the second recited field, the Examiner finds Foster teaches a STC (system time clock) identification code that is “in the header [and] indicates the order in the file (col. 7 lines 5-35, col. 9 lines 1-23, STC in header)” (Ans. 17). What Appellants argue is that the “STC . . . is not itself a part of the transport stream, nor is it disclosed in Foster et al as part of a header 412 for sub blocks of data created at the STB from the received transport stream” (Reply Br. 10). We are not persuaded by Appellants’ arguments because we find Foster discloses that headers are built and queued with data sub-blocks,

and STC values are included in the headers for comparison with current STC values to correlate sub-block storage locations (FF 5). Further, as addressed *supra*, we construe claim 13 as being reasonably broad enough to read on STB construction of claimed headers.

For the foregoing reasons, we find the Examiner did not err in rejecting representative claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Foster and Morrison. Accordingly, the Examiner's rejection of independent claim 13, as well as the not separately argued rejection of dependent claims 14 and 15 will be sustained.

Claims 6, 7, 20, and 21

Based on the record, we are persuaded the Examiner did not err under § 103(a) in rejecting dependent claims 6, 7, 20, and 21 as being unpatentable over Foster, Hiroshima, and Morrison.

Appellants essentially reiterate the same arguments considered above for base independent claims 1 and 17 (App. Br. 15, 16). Accordingly, we will sustain the rejection of dependent claims 6, 7, 20, and 21 for similar reasons as their base claims. *In re Nielson*, 816 F.2d 1567, 1572 (Fed. Cir. 1987).

Claim 8

Based on the record, we are persuaded the Examiner did not err under § 103(a) in rejecting dependent claim 8 as being unpatentable over Foster, Hiroshima, Morrison, and Rieger.

Appellants essentially reiterate the same arguments considered above for base independent claim 1 (App. Br. 16). Accordingly, we will sustain the rejection of dependent claim 8 for similar reasons as base claim 1. *Nielson*, 816 F.2d at 1572.

Claim 11

Based on the record, we are persuaded the Examiner erred under § 103(a) in rejecting dependent claim 11 as being unpatentable over Foster, Hiroshima, Rieger, and Morrison.

Claim 11 is dependent from claim 10 that we find nonobvious as is addressed *supra*. We do not find that Morrison overcomes the deficiencies of Foster, Hiroshima, and Rieger. We, accordingly, will not sustain the rejection of claim 11 because it contains all the limitations of claim 10. *Hartness Int'l Inc., v. Simplimatic Eng'g Co.*, 819 F.2d 1100, 1108 (Fed. Cir. 1987).

Claim 16

Based on the record, we are persuaded the Examiner did not err under § 103(a) in rejecting dependent claim 16 as being unpatentable over Foster, Morrison, and Wolzien.

Appellants essentially reiterate the same arguments considered above for base independent claim 13 (App. Br. 17, 18). Accordingly, we will sustain the rejection of dependent claim 16 for similar reasons as claim 13. *Nielson*, 816 F.2d at 1572.

CONCLUSIONS

Under § 103(a), Appellants have shown the Examiner erred in rejecting claims 10, 11, and 19 as being unpatentable over Foster, Hiroshima, and Rieger.

Under § 103(a), Appellants have not shown the Examiner erred in rejecting claims 1, 2, 4-9, 12-18, 20, and 21 as being unpatentable over cited references.

DECISION

The Examiner's decision rejecting claims 1, 2, 4-9, 12-18, 20, and 21 is affirmed. The Examiner's decision rejecting claims 10, 11, and 19 is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

KIS

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